

⊙ 5 minute read 🗸 page test

Follow this guide to install and configure an Istio mesh using Helm for in-depth evaluation.

The Helm charts used in this guide are the same underlying charts used when installing Istio via Istioctlor the Operator.

This feature is currently considered alpha.

Prior to Istio 1.9.0, installations using the Helm charts required hub and tag arguments: --set global.hub="docker.io/istio" and --set global.tag="1.8.2". As of Istio 1.9.0 these are no longer required.

Prerequisites

2. Perform any necessary platform-specific setup.

1. Download the Istio release.

3. Check the Requirements for Pods and Services.4. Install a Helm client with a version higher than 3.1.1.

The commands in this guide use the Helm charts that

Helm 2 is not supported for installing Istio.

The commands in this guide use the Helm charts that are included in the Istio release package located at manifests/charts.

Installation steps

Change directory to the root of the release package and then follow the instructions below.

The default chart configuration uses the secure third party tokens for the service account token projections used by Istio proxies to authenticate with the Istio control plane. Before proceeding to install any of the charts below, you should verify if third party tokens are enabled in your cluster by

following the steps describe here. If third party tokens are not enabled, you should add the option -- set global.jwtPolicy=first-partyjwt to the Helm install commands. If the jwtPolicy is not set correctly, pods associated with istiod, gateways or workloads with injected Envoy proxies will not get deployed due to the missing istio-token volume.

1. Create a namespace istio-system for Istio components:

\$ kubectl create namespace istio-system

wide resources used by the Istio control plane:

\$ helm install istio-base manifests/charts/base -n istio-sy stem

Install the Istio base chart which contains cluster-

- 3. Install the Istio discovery chart which deploys the istiod service:
 - \$ helm install istiod manifests/charts/istio-control/istiodiscovery \
 -n istio-system
 - 1. (Optional) Install the Istio ingress gateway chart which contains the ingress gateway components:

```
$ helm install istio-ingress manifests/charts/gateways/isti
o-ingress \
   -n istio-system
```

5. (Optional) Install the Istio egress gateway chart which contains the egress gateway components:

```
$ helm install istio-egress manifests/charts/gateways/istio
-egress \
    -n istio-system
```

Verifying the installation

are deployed and have a STATUS of Running:

\$ kubectl get pods -n istio-system

Ensure all Kubernetes pods in istio-system namespace

Updating your Istio configuration

You can provide override settings specific to any Istio Helm chart used above and follow the Helm upgrade workflow to customize your Istio mesh installation.

inspecting the top level values.yaml file associated with the Helm charts located at manifests/charts inside the Istio release package specific to your version.

The available configurable options can be found by

Note that the Istio Helm chart values are under active development and considered experimental. Upgrading to newer versions of Istio can involve migrating your override values to follow the new API.

recommended because it provides schema validation while unstructured Helm values do not.

For customizations that are supported via both ProxyConfig and Helm values, using ProxyConfig is

Create a backup

Before upgrading Istio in your cluster, we recommend creating a backup of your custom configurations, and restoring it from backup if necessary:

You can restore your custom configuration like this:

\$ kubectl apply -f "\$HOME"/istio_resource_backup.yaml

\$ kubectl get istio-io --all-namespaces -oyaml > "\$HOME"/istio r

esource backup.yaml

Migrating from non-Helm installations

If you're migrating from a version of Istio installed using istictl or Operator to Helm (Istio 1.5 or

plane resources and re-install Istio using Helm as described above. When deleting your current Istio installation, you must not remove the Istio Custom Resource Definitions (CRDs) as that can lead to loss of your custom Istio resources.

earlier), you need to delete your current Istio control

It is highly recommended to take a backup of your Istio resources using steps described above before deleting current Istio installation in your cluster.

You can follow steps mentioned in the IstioctI uninstall guide or Operator uninstall guide depending upon your installation method.

Uninstall

You can uninstall Istio and its components by uninstalling the charts installed above.

1. List all the Istio charts installed in istio-system namespace:

NAME	NAMESPACE	REVI	SION	UPDATED	
	STATUS		CHART		
APP VERSION					
istio-base	istio-system	1			
	deploy	ed	base-1	.9.0	
istio-egress	istio-system	1			
	deploy	ed	istio-	egress-1.9.0	
istio-ingress	istio-system	1			
	deployed		istio-ingress-1.9.0		
istiod	istio-system	1			
	deploy	ed	istio-	discovery-1.9.0	

2. (Optional) Delete Istio ingress/egress chart:

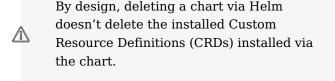
\$ helm ls -n istio-system

```
$ helm delete istio-egress -n istio-system
$ helm delete istio-ingress -n istio-system
```

\$ helm delete istiod -n istio-system

3. Delete Istio discovery chart:

4. Delete Istio base chart:



\$ helm delete istio-base -n istio-system

5. Delete the istio-system namespace:
\$ kubectl delete namespace istio-system

Uninstall stable revision label resources

If you decide to continue using the old control plane, instead of completing the update, you can uninstall the newer revision and its tag by first issuing helm template istiod manifests/charts/istio-control/istio-

revisionTags={prod-canary} --set revision=canary -n istio-system | kubectl delete -f -. You must them uninstall the revision of Istio that it pointed to by following the uninstall procedure above.

If you installed the gateway(s) for this revision using

discovery -s templates/revision-tags.yaml --set

in-place upgrades, you must also reinstall the gateway(s) for the previous revision manually, Removing the previous revision and its tags will not automatically revert the previously in-place upgraded gateway(s).

(Optional) Deleting CRDs installed by Istio

Deleting CRDs permanently removes any Istio resources you have created in your cluster. To permanently delete Istio CRDs installed in your cluster: